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Claims

1. A kerbstone comprising a body formed from a plastics or rubber material, the body defining front, rear, top, and opposite end faces and having a flange extending
5 therefrom to assist retention of the kerbstone, in use.
2. A kerbstone according to claim 1, in which the flange comprises a flange on the front face.
- 10 3. A kerbstone according to claim 1 or 2, in which the flange comprises a flange on the rear face.
4. A kerbstone according to claim 1, 2 or 3, in which the or each flange is proximate the base.
- 15 5. A kerbstone according to any preceding claim, in which the or each flange has one or more holes formed therein.
6. A kerbstone according to any preceding claim, in which a further retention
20 formation is provided.
7. A kerbstone according to claim 6, in which the further retention formation comprises a projection on an end face.
- 25 8. A kerbstone according to claim 6 or 7, in which the further retention formation comprises a recess in an end face.
9. A kerbstone according to claim 6, in which the further retention formation comprises a projection on an end face and a recess on the opposite end face.
- 30 10. A kerbstone according to any preceding claim wherein the body defines a hollow cavity.

11. A kerbstone according to claim 10 wherein the body is defined by front, rear, top, forward and opposite first and second end faces and a base, the hollow cavity being open at the base.
- 5 12. A kerbstone according to claim 11 wherein the body defines one or more ribs, the one or more ribs dividing the cavity into at least two compartments.
- 10 13. A kerbstone according to claim 12 wherein each of the one or more ribs is scalloped proximate the base.
14. A kerbstone according to any preceding claim, in which the kerbstone has a front wall, a rear wall, a top wall, a forward wall and first and second end walls.
- 15 15. A kerbstone according to claim 14, in which the top wall and forward wall have a wall thickness 50% to 150% greater than that of the rear wall, most preferably 100%.
16. A kerbstone according to any preceding claim, in which the body includes means for receiving, in use, at least one spigot, or pin.
- 20 17. A kerbstone according to any preceding claim, in which the body is formed from two different materials.
18. A kerbstone according to claim 17 wherein the body has a first portion arranged to be exposed in use, and a second portion which is buried in use and the material forming the first portion is 25 to 50% stronger than the material forming the second portion.
- 25 19. A kerbstone according to claim 17 or 18 in which the kerbstone includes a part in-molded into the body.
- 30 20. A kerbstone according to any of claims 14 to 19, in which the kerbstone has one or more apertures in the front and/or rear walls to allow concrete to be poured therethrough.
- 35 21. A kerbstone having a body which defines a retention formation for assisting retention of the kerbstone, in use.

22. A kerbstone according to claim 21 wherein the body is defined by
a leading surface,
a front face,
5 a rear face,
a base and
first and second end faces,
the leading surface comprising a top face and a forward face.
- 10 23. A kerbstone according to claim 22 wherein the leading surface defines a first portion which is exposed in use, and the front face, rear face, base, and, first and second end faces, define a second portion which is buried in use.
- 15 24. A kerbstone according to claim 23 wherein the retention formation is on the second, buried portion.
25. A kerbstone according to any one of claims 21 to 24 wherein the retention formation includes a flange arrangement.
- 20 26. A kerbstone according to claim 25 wherein the flange arrangement comprises a flange on the front face.
27. A kerbstone according to claim 25 or 26 wherein the flange arrangement comprises a flange on the rear face.
- 25 28. A kerbstone according to claim 26 or 27 wherein the or each flange is proximate the base.
29. A kerbstone according to any one of claims 26 to 28 wherein the or each flange has
30 one or more holes formed therein.
30. A kerbstone according to any of claims 21 to 29 wherein the body defines a hollow cavity.
- 35 31. A kerbstone according to claim 30 wherein the body is defined by front, rear, top, forward and opposite first and second end faces and a base, the hollow cavity being open at the base.

32. A kerbstone according to claim 31 wherein the body defines one or more ribs, the one or more ribs dividing the cavity into at least two compartments.
- 5 33. A kerbstone according to claim 32 wherein each of the one or more ribs is scalloped proximate the base.
- 10 34. A kerbstone according to claim 21 wherein the kerbstone has
a front wall,
a rear wall,
a top wall,
a forward wall and
first and second end walls.
- 15 35. A kerbstone according to claim 34 wherein the front wall, rear wall, top wall, forward wall and first and second end walls delineate a hollow cavity, the cavity being divided into one or more compartments by one or more ribs, the one or more ribs running between the rear wall and the front wall.
- 20 36. A kerbstone according to claim 35 wherein the one or more ribs run parallel to the end walls.
- 25 37. A kerbstone according to any one of claims 34 to 36 wherein the top wall and forward wall have a wall thickness 50% to 150% greater than that of the rear wall, most preferably 100%.
38. A kerbstone according to any of claims 21 to 37 wherein the retention formation includes means for receiving, in use, at least one spigot, or pin.
- 30 39. A kerbstone according to claim 38 when dependent on claim 35 or 36 wherein the one or more ribs define the receiving means.
- 35 40. A kerbstone according to claim 38, when dependent on claim 34, wherein the front wall, rear wall, top wall, forward wall and first and second end walls delineate a hollow cavity, the, or each, receiving means comprising a hollow cylinder for receiving the spigot, or pin, the cylinder being retained within the cavity.

41. A kerbstone according to claim 40 when dependent upon claim 35 wherein the or each cylinder is retained within a compartment by at least one of the ribs, front wall, rear wall, or first or second end walls.
- 5 42. A kerbstone according to any of claims 21 to 41 wherein the body is formed from a synthetic or elastomeric material.
43. A kerbstone according to claim 42 wherein the synthetic or elastomeric material is low density polyethylene.
- 10 44. A kerbstone according to claims 23 or 24 wherein the first portion is formed from a different synthetic or elastomeric material to the second portion.
- 15 45. A kerbstone according to claim 44 wherein the material forming the first portion is 25 to 50% stronger than the material forming the second portion.
- 20 46. A kerbstone according to claim 34 wherein the top wall and forward wall are formed from a different synthetic or elastomeric material to the front wall, rear wall, and first and second end walls.
- 25 47. A kerbstone according to claim 44 wherein the material forming the top wall and forward wall is 25 to 50% stronger than the material forming the front wall, rear wall, and first and second end walls.
- 30 48. A kerbstone according to any one of claims 22, 23 or 24 wherein the retention formation includes first and second retention elements on the first and second end faces, respectively.
49. A kerbstone according to claim 48 wherein the first element projects from the first end face and the second element is recessed into the second end face.
50. A kerbstone according to claim 48 or 49 wherein the first and second elements extend from proximate the base to a position short of the top face.
- 35 51. A kerbstone having the flange arrangement according to any one of claims 25 to 29 and first and second retention elements according to any of claims 48 to 50.

52. A kerbstone according to any one of claims 22 to 51 wherein at least one of the rear face and front face has at least one hole for receiving, in use, a concrete mix.
53. A kerbstone according to claim 22 wherein the retention formation comprises one or more holes in the rear face for receiving, in use, a concrete mix.
54. A kerbstone according to any one of claims 22 to 53 wherein the leading surface has a non-slip finish.
55. A kerbstone according to any preceding claim, in which a photovoltaic cell is received in the body.
56. A kerbstone according to any preceding claim, in which a battery is received in the body.
57. A kerbstone according to any preceding claim, in which a light source is received in the body.
58. A kerbstone according to claim 57, in which the light source comprises one or more light emitting diodes, most preferably colour variable light emitting diodes.
59. A kerbstone according to any preceding claim, in which a sensor is received in the body.
60. A kerbstone according to claim 59, in which the sensor is one of a vehicle parking sensor, a vehicle speed sensor, a light sensor or other vehicular approach sensor.
61. A kerbstone according to any preceding claim, in which the kerbstone includes communication means to allow the kerb to communicate with a remote location.
62. A kerbstone according to claim 61, in which the communication means comprises a mobile telephone or other wireless communication means.
63. A kerbstone according to any preceding claim, in which the kerbstone comprises a sensor and a light source whereby activation of the sensor causes the light source to be illuminated or, where a variable colour LED is provided, causes the variable colour LED to be illuminated or to change colour.

64. A kerbstone according to claim 63, in which the sensor is a vehicle approach sensor and the light source is illuminated intermittently to provide a warning signal.

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65. A kerbstone according to claim 61, in which the kerbstone includes a light source, preferably comprising one or more light emitting diodes, most preferably colour variable light emitting diodes, whereby the light source may be activated remotely via the communication means.

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66. A kerbstone according to claim 61, in which the kerbstone includes a sensor whereby data from the sensor can be passed from the kerbstone to a remote location via the communication means.

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67. A kerbstone according to claim 66, in which the kerbstone includes a light source, preferably comprising one or more light emitting diodes, most preferably colour variable light emitting diodes, whereby the light source may be activated remotely via the communication means.

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68. A kerbstone according to claim 57, in which the light source is a fibre optic cable which carries light from a remote location to the kerb.

69. A kerbstone according to any preceding claim in which the kerb has a light reflective surface over at least part of the front or top faces thereof.

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70. A kerbstone according to any preceding claim having a drainage channel formed integrally therewith or attached thereto.

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71. A kerbstone according to claim 71, in which the front face of the kerbstone has one or more apertures formed therein and in fluid communication with the drainage channel.

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72. A kerbstone according to any preceding claim, in which the body is hollow and includes a plurality of ribs therein.

73. A kerbstone according to claim 72, in which at least one of the ribs is shorter than the other or others.

74. A kerbstone according to claim 72 or 73, in which the ribs extend from front face to back face or one end face to the other end face or in both directions, and/or diagonally thereto.
- 5 75. A kerbstone according to claim 72, 73 or 74, in which the ribs are formed in a honeycomb or other suitable load bearing form.
76. A kerbstone according to any of claims 72 to 75, in which the ribs have a higher density in the upper part of the kerbstone.
- 10 77. A kerbstone according to any preceding claim, in which the plastics or rubber material is formed with a blowing agent.
78. A kerbstone according to any preceding claim in which at least one face thereof is treated to make it wettable to ink or paint.
- 15 79. A kerbstone according to claim 78 in which the surface is rendered wettable by heat treatment or electrostatic discharge.
80. A kerbstone according to claim 30, in which the hollow cavity is filled with expansion foam.
- 20 81. A kerbstone according to any preceding claim, having any outer skin of plastics material.
82. A kerbstone according to any preceding claim having an indicia bearing plate or a plate of higher friction material in-molded into the body thereof.
- 25 83. A kerbstone according to any preceding claim having a textured surface profile formed on at least one face or a face having indicia formed in the surface thereof.
- 30 84. A kerbstone assembly comprising at least two kerbstones in accordance with claim 48 wherein the first retention element of a first kerbstone is suitable for engagement with the second retention element of a second kerbstone.
- 35 85. The kerbstone assembly according to claim 84 wherein the first element projects from the first end face and the second element is recessed into the second end face.

86. The kerbstone assembly according to claim 85 wherein the first and second elements extend from proximate the base to a position short of the top face.
- 5 87. The kerbstone assembly according to claim 86 wherein the first element defines an external, upward-facing abutment surface and the second element defines an internal, downward-facing abutment surface, the abutment surfaces engaging, in use, so that the second kerbstone is at least partially supported by the first kerbstone.
- 10 88. A kerbstone assembly comprising at least two kerbstones according to any of claims 57 to 67 in which power for the light source, sensor or communication means on one of the kerbstones is provided by a power supply on another of the kerbstones.
- 15 89. A kerb race reinforcement structure having a preformed body which defines a base for supporting a kerb carrying surface for carrying a kerbstone, the kerb carrying surface being displaced from the base so as to define a cavity between the kerb carrying surface and the surface onto which the structure is to be laid, in use.
- 20 90. The kerb race reinforcement structure according to claim 89 wherein the kerb carrying surface defines a retention arrangement for assisting retention of at least one kerbstone.
- 25 91. The kerb race reinforcement structure according to claim 89 or 90 wherein the preformed body comprises a frame having a first support, a second support and a brace therebetween, an upper surface of the brace defining the kerb carrying surface.
- 30 92. The kerb race reinforcement structure according to claim 91 wherein the frame is formed from sheet material, preferably sheet metal.
93. The kerb race reinforcement structure according to claim 92 wherein at least one of the first and second supports have holes for receiving, in use, a concrete mix.
- 35 94. The kerb race reinforcement structure according to claim 92 or 93 when dependent on claim 90 wherein the retention arrangement comprises at least one raised portion for engaging a corresponding recess in a kerbstone.
95. The kerb race reinforcement structure according to claim 91 wherein the frame is formed from meshed material, preferably a metal mesh, most preferably a mesh of steel wire or rod.

96. The kerb race reinforcement structure according to claim 95 wherein the holes defined by the mesh are of suitable size to take an aggregate.
- 5 97. The kerb race reinforcement structure according to claim 90 wherein the retention arrangement comprises at least one spigot, or pin, for engaging a hollow cavity in a kerbstone.
- 10 98. The kerb race reinforcement structure according to claim 90 wherein the retention arrangement comprises at least one hollow cylinder for receiving a spigot, or pin; the spigot, or pin, being suitable for engaging a hollow cylinder in a kerbstone.
- 15 99. The kerb race reinforcement structure according to any one of claims 91 to 98 wherein the first support and second support each include at least one foot for engaging the surface onto which the structure is to be laid, in use.
- 20 100. A kerbstone and kerb race reinforcement structure sub-assembly including a kerbstone and at least one kerb race reinforcement structure according to any one of claims 89 to 99.
101. A kerbstone and kerb race reinforcement structure sub-assembly including the kerbstone assembly of any one of claims 84 to 87 and at least one kerbstone race according to any one of claims 89 to 91.
- 25 102. A method of forming a kerb comprising the steps of laying the kerb race reinforcement structure of any one of claims 89 to 91 onto a sub-base, installing at least one kerbstone on the kerb race reinforcement structure such that the or each kerbstone is retained on the kerb race reinforcement structure, pouring a concrete mix onto the sub-base so as to fill the race cavity with concrete mix to form a kerb race and
- 30 to fix the or each kerbstone on the kerb race.
103. The method of forming a kerb according to claim 102 wherein the kerbstone is a kerbstone according to claim 48.
- 35 104. The method of forming a kerb according to claim 102 wherein the kerbstone is a kerbstone according to any of claims 25 to 29, and 51.

105. The method of forming a kerb according to claim 104 wherein the step of pouring a concrete mix onto the sub-base comprises pouring sufficient concrete to submerge the kerb race reinforcement structure and the flange arrangement.
- 5 106. The method of forming a kerb according to any one of claims 103 to 105 including the further step of tying the, or each, kerbstone to the kerbstone race by zip tie, wire tie, or similar means, before applying the concrete mix to the race.
- 10 107. The method of forming a kerb according to any one of claims 103 to 106 wherein the step of pouring a concrete mix onto the sub-base comprises sufficient concrete so as to form a haunch against the rear and front faces of the, or each, kerbstone.
- 15 108. The method of forming a kerb according to any one of claims 103 to 107 comprising, after installing a first kerbstone on the race and before pouring the concrete mix, the further step of installing a second kerbstone on the kerb race reinforcement structure and applying an adhesive to the end faces of the first and second kerbstones so as to create a bond between the first and second kerbstones.
- 20 109. The method of forming a kerb according to any one of claims 102 to 108 comprising, after the steps of laying the kerb race reinforcement structure and before pouring the concrete mix, the further step of pouring a preparatory concrete mix onto the sub-base so as to retain the base of the kerb race reinforcement structure on the sub-base, leaving the carrying surface of the kerb race reinforcement structure exposed.
- 25 110. A method of forming a kerb race comprising the steps of laying a race formed from a semi-dry concrete mix, inserting into the semi-dry concrete mix at least one spigot receiving structure and allowing the concrete to dry.
- 30 111. A method of forming a kerb comprising the steps of forming a kerb race according to the method of claim 110, inserting a spigot into the spigot receiving structure and laying a kerbstone on the kerb race adjacent the spigot and pouring concrete against the kerbstone, around the spigot, to form a haunch.
- 35 112. The method of forming a kerb according to claim 111 wherein the kerbstone has means for receiving the spigot so as to retain the kerbstone on the race.

113. The method of forming a kerb according to claim 111 or 112 wherein the kerbstone is the kerbstone according to claim 38.